

The identical invention must be shown in as complete detail as contained in the claim. The elements must be arranged as required by the claim.

Claim 16 is directed to a method for non-destructive testing of a component including a base body made up of a base material. The method is used for determining a degraded region of the base material. A property of the base material is determined in response to a first signal having a depth of penetration that includes the base material. A property of the degraded region is determined in response to a second signal having a depth of penetration including the degraded region. The frequency of the first signal is lower than the frequency of the second signal.

Becker is directed to an eddy current method for studying the corrosion depth associated with stress corrosion cracking in austenitic components. Similar to the claimed invention, Becker employs a first low frequency signal and a second higher frequency signal. However, opposite to the claimed invention, Becker uses the low-frequency signal to generate a signal which corresponds to the sum of actual coil lift and corrosion depth. That is, Becker teaches away from determining a property of the base material in response to a first signal having a depth of penetration that includes the base material. Moreover, opposite to the claimed invention, Becker describes that the high frequency signal is rectified to suppress the corrosion signal contained therein so that just a lift signal is generated. This lift signal is associated with the actual coil lift. That is, Becker teaches away from determining a property of the degraded region in response to a second signal having a depth of penetration including the degraded region. As noted above, Becker expressly teaches suppression of the corrosion signal contained therein. Becker then describes that the corrosion depth is determined by subtraction of the second signal from the first signal.

To make a more vivid emphasis of the teaching away aspects of Becker regarding the claimed invention, applicant uses below a mathematical representation of the linguistic description of Becker. More particularly, Becker describes that the low-frequency signal is used to generate a first signal  $S_1 = \text{Coil}_{\text{lift}} + \text{Corrosion}_{\text{depth}}$  and uses the high frequency signal to generate a second signal  $S_2 = \text{Coil}_{\text{lift}} + \text{Corrosion}_{\text{depth}}$ , wherein Becker describes that the corrosion depth contained in the second signal is suppressed by rectification. Thus,  $S_2$  becomes just  $\text{Coil}_{\text{lift}}$ . Finally,  $S_1 - S_2 = (\text{Coil}_{\text{lift}} + \text{Corrosion}_{\text{depth}}) - \text{Coil}_{\text{lift}} = \text{Corrosion}_{\text{depth}}$  arriving at the result in Becker for the determination of corrosion depth. It would be apparent to one skilled in the art that the claimed invention has very little to do with the description of Becker. In view of

the foregoing considerations, Becker fails as an anticipatory reference since Becker fails to describe each and every element and/or operational relationship as set forth in the claimed invention. Thus, anticipation under 35 U.S.C. §102 is not supported by the cited art and the rejection of claim 16 should be withdrawn.

Since dependent claims 17-29 and 31-32 include the structural and/or operational relationships respectively recited in claim 16, it is also respectfully submitted that Becker also fails to anticipate such dependent claims.

Conclusion

It is respectfully submitted that each of the claims pending in this application recites patentable subject matter and it is further submitted that such claims comply with all statutory requirements and thus each of such claims should be allowed.

The commissioner is hereby authorized to charge any appropriate fees due in connection with this paper, including the fees specified in 37 C.F.R. §§ 1.16 (c), 1.17(a)(1) and 1.20(d), or credit any overpayments to Deposit Account No. 19-2179.

Respectfully submitted,

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By: John Musone

John Musone  
Registration No. 44,961  
(407) 736-6449

Siemens Corporation  
Intellectual Property Department  
170 Wood Avenue South  
Iselin, New Jersey 08830